

## MCF 3M

Chapter 4 Test Review

Test Wednesday

Expansion

Factoring

Identifying the 2 Zeros/Roots

Finding Vertex Form -

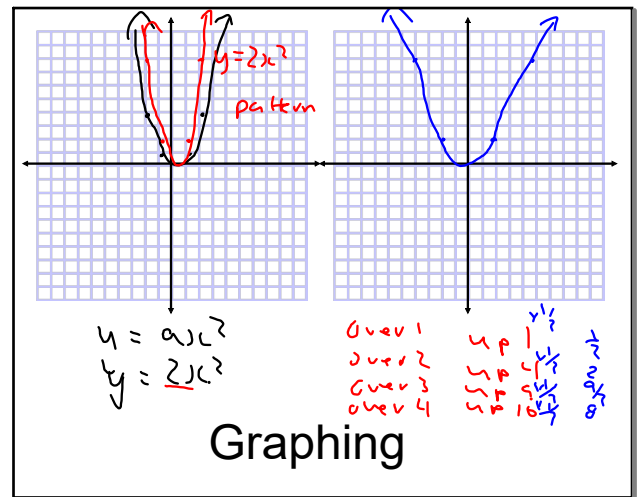
Completing the Square

Finding Standard Form

Quadratic Formula

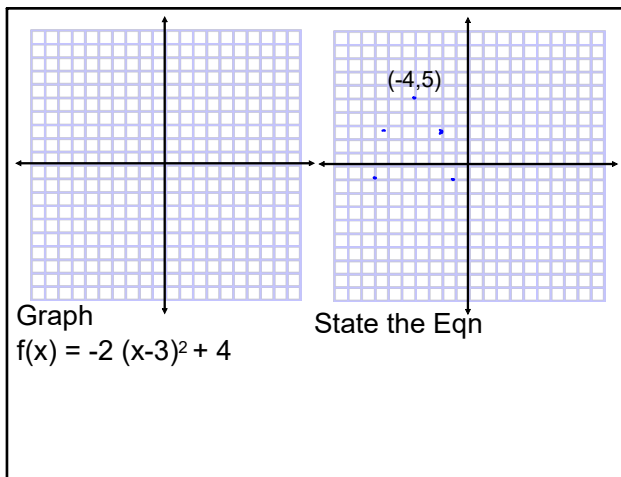
p 226 1,2,3,4 &amp; 5

p254-255 q 1-10

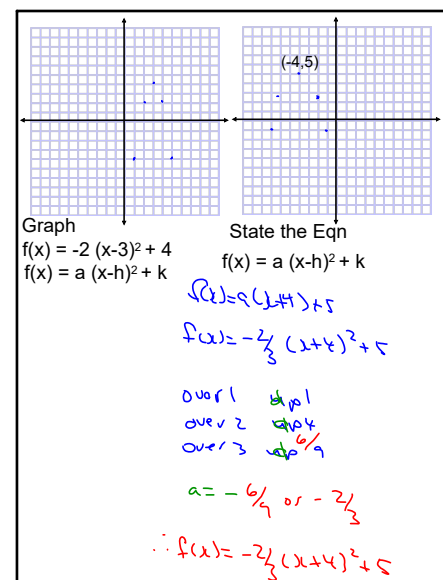
WORD  
PROBLEMS

Mar 10-8:12 AM

Mar 11-10:12 AM



Mar 11-10:12 AM



Mar 11-10:12 AM

## Complete The Square

$$f(x) = -4x^2 - 8x + 12$$

$$f(x) = -4(x^2 + 2x) + 12$$

partial factor

$$f(x) = -4(x^2 + 2x + 1 - 1) + 12$$

$$f(x) = -4[(x+1)^2 - 1] + 12$$

$$f(x) = -4(x+1)^2 + 4 + 12$$

$$f(x) = -4(x+1)^2 + 16$$

## Factor

$$f(x) = x^2 + 2x - 35$$

$$f(x) = x^2 + 7x - 5x - 35$$

$$f(x) = x(x+7) - 5(x+7)$$

$$= (x+7)(x-5)$$

$$S = -7 \quad t = +5$$

factored  
zeros

$$\begin{array}{r} 17 \\ -35 \\ \hline 17 \\ 5+7 \end{array}$$

Mar 11-9:43 AM

Mar 11-10:07 AM

P 223 q 7

$f(x) = 60x - 2x^2$   $x \leq 10$   $A=400$   
 Roof is 400

$400 = 60x - 2x^2$   
 $0 = 60x - 2x^2 - 400$   
 $0 = -2x^2 + 60x - 400$   
 $0 = 2x^2 - 60x + 400$

$a = 2$   
 $b = -60$   
 $c = 400$

$x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$

$x = \frac{-(-60) \pm \sqrt{(-60)^2 - 4(2)(400)}}{2(2)}$

$x = \frac{60 \pm \sqrt{3600 - 3200}}{4}$

$x = \frac{60 \pm \sqrt{400}}{4}$

$x = \frac{60 \pm 20}{4}$

$x = \frac{60 + 20}{4}$   $x = \frac{60 - 20}{4}$

$x = \frac{80}{4}$   $x = \frac{40}{4}$

$x = 20$   $x = 10$

$20$   $400$   $20$   $10$   $400$   $10$

HOUSE

Therefore the optimal dimensions of a fence with an area of 400m<sup>2</sup> is 20x20 or 10x40.

Mar 24-10:52 AM

State Domain and Range

$$f(x) = 2(x+2)^2 - 7$$

$$f(x) = -3(x+2)^2 - 7$$

Mar 24-10:57 AM

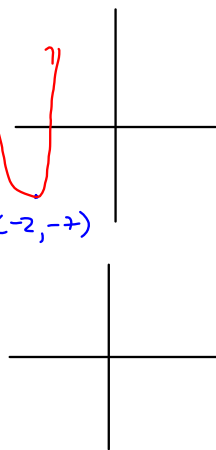
State Domain and Range

$$f(x) = 2(x+2)^2 - 7$$

$$D = \{x \in \mathbb{R}\}$$

$$R = \{f(x) \mid x \in \mathbb{R} \mid f(x) \geq -7\}$$

$$f(x) = -3(x+2)^2 - 7$$



Mar 24-10:57 AM

#7

Sally

$$h(t) = -5t^2 + 10t$$

$$h(t) = -5(t^2 - 2t)$$

$$h(t) = -5(t^2 - 2t + 1 - 1)$$

$$h(t) = -5[(t-1)^2 - 1]$$

$$h(t) = -5(t-1)^2 + 5$$

$$(1, 5)$$

The ball reaches a maximum height of 5m at 1 sec. Therefore it is a dangerous ball.

$$t = 5$$

$$h(t) = m$$

Dangerous  
Ball  
1m

Nov 2-9:39 AM